

Application No. 10/688,364  
Amendment A dated March 20, 2006  
Reply to Office Action mailed November 22, 2005

### REMARKS

The present Amendment is in response to the Examiner's Office Action mailed November 22, 2005. Claims 1, 7, 16, 24, and 32 are amended and new claims 33-36 are added. Claims 1-36 are now pending in view of the above amendments.

Reconsideration of the application is respectfully requested in view of the above amendments to the claims and the following remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

Please note that the following remarks are not intended to be an exhaustive enumeration of the distinctions between any cited references and the claimed invention. Rather, the distinctions identified and discussed below are presented solely by way of example to illustrate some of the differences between the claimed invention and the cited references. In addition, Applicants request that the Examiner carefully review any references discussed below to ensure that Applicants' understanding and discussion of the references, if any, is consistent with the Examiner's understanding.

#### I. CLAIM REJECTIONS

##### A. Rejection Under 35 U.S.C. §102(b)

The Examiner rejects claims 1-6 under 35 U.S.C. § 102(b) as being anticipated by *Onaka et al.* (United States Patent No. 5,867,300). Because *Onaka* does not teach or suggest each and every element of the rejected claims, Applicants respectfully traverse this rejection in view of the following remarks.

As shown in Figure 13, *Onaka* teaches a variable optical attenuator. The variable optical attenuator includes an electromagnet 60. The electromagnet includes a yoke 62, a coil 64 disposed around a portion of the yoke 62, a permanent magnet 66 built into a portion of the yoke 62, and a permanent magnet 40 (not shown - see Figure 1). Col. 13, l. 64 - col. 14, l. 11. As described by *Onaka*, "[w]hen a current applied to coil 64 is 0 A, only the bias magnetic field applied by permanent magnet 66 in the propagation direction of light beam 5 is applied to

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Faraday element 20." Col. 14, ll. 22-25. As shown in Figure 13, the coil 64 is not, however, disposed around at least a portion of the Faraday element 20.

In direct contrast, the rejected claims specifically recite, "a conductive wire disposed around at least a portion of the semi-transparent material ...." To anticipate a claim, "[t]he identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). Further, it is well established that "every limitation positively recited in a claim must be given effect in order to determine what subject matter that claim defines." *In re Wilder*, 166 USPQ 545, 548 (CCPA 1970); *See also In re Wilson*, 165 USPQ 494 (CCPA 1970) ("all words in a claim must be considered in judging the patentability of that claim against the prior art"). Rather, the portions of *Onaka* relied upon in the Office Action indicate that the coil 64 is disposed about a portion of the yoke 62, not the Faraday element 20. Therefore, the Applicant respectfully requests that the rejection of claims 1-6 be withdrawn.

Since *Onaka* does not teach the device being claimed in this application, Applicants respectfully request that the rejection under 35 U.S.C. § 102(b) be withdrawn.

The Applicant also notes that the rejection relies on presumptions to infer that the material of the Faraday element in *Onaka* is a garnet. Anticipation, however, cannot lie on probabilities and possibilities. The disclosure must be express or inherent rather than possible or probable. "Inherency, however may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1269 (Fed. Cir. 1991). "The mere fact that a certain thing may result from a given set of circumstances is not sufficient to establish inherency." *In re Rijckaert*, 9 F.3d 1531 (Fed. Cir. 1993). Thus, the Examiner must show that the garnet is "necessarily present" in *Onaka* not merely presumed, possible, or probable.

#### **B. Rejection Under 35 U.S.C. § 103**

The Examiner rejects claims 7-15 and 32 under 35 U.S.C. § 103 as being unpatentable over *Onaka*.

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According to the applicable statute, a claimed invention is unpatentable for obviousness if the differences between it and the prior art "are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103(a) (2005); *Graham v. John Deere Co.*, 383 U.S. 1, 14 (1966); MPEP 2142. Obviousness is a legal question based on underlying factual determinations including: (1) the scope and content of the prior art, including what that prior art teaches explicitly and inherently; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness. *Graham*, 383 U.S. at 17-18; *In re Dembiczak*, 175 F.3d 994, 998 (Fed. Cir. 1999). It is the initial burden of the PTO to demonstrate a prima facie case of obviousness, which requires the PTO to show that the relied upon references teach or suggest all of the limitations of the claims. MPEP 2142 (emphasis added).

According to MPEP section 2143:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."

(Emphasis added).

According to the Examiner, "Onaka discloses the first polarizing element and variable faraday rotator as in the above rejection of claim 1."

Similar to that set forth regarding claim 1, independent claim 7 includes the element "a conductive wire disposed around at least a portion of the semi-transparent material ...." For reasons similar to that discussed above in regards to claims 1-6, the Examiner has not shown that *Onaka* teaches this element of claim 7 in combination with every other element of independent claim 7. As such, the Applicant respectfully requests that the rejection of claim 7 be withdrawn. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Therefore, the Applicant respectfully

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requests that the rejection of claims 8-15 be withdrawn at least for the same reasons set forth for claim 7 from which they depend.

Regarding the rejection of claim 32, the Examiner has not shown that *Onaka* teaches or suggests "transmitting at least a portion of the light signal proportional to the angular difference between an optical polarization axis of the light signal and that of the first polarizing element to a first faraday rotator; [and] transmitting at least a portion of the light signal proportional to the angular difference between an optical polarization axis of the light signal and that of the first polarizing element to a second variable faraday rotator..." in combination with every other element of claim 32 as currently presented. (Emphasis added). Therefore, the Applicant respectfully request that the rejection of claim 32 be withdrawn.

The Examiner rejects claims 16-31 under 35 U.S.C. § 103 as being unpatentable over *Onaka* in view of *Uchida et al.* (U.S. Pat. No. 4,178,073).

The Examiner cites again to the rejection of claim 1 for support in rejecting the elements of claim 16 related to a variable faraday rotator. Independent claims 16 and 24 include a variable faraday rotator including the element "a conductive wire disposed around at least a portion of the semi-transparent material..." At least for reasons similar to those set forth above in regard to claim 1, the Examiner has not shown that the combination of *Onaka* and *Uchida* teaches or suggests each and every element of independent claims 16 and 24. Therefore, the Applicant respectfully request that the rejection of claims 16 and 24 be withdrawn. As described above, if an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. Therefore, the Applicant respectfully requests that the rejection of claims 17-23 and 25-31 be withdrawn at least for the same reasons set forth for claims 16 and 24 from which they depend.

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### CONCLUSION

In view of the foregoing, Applicants believe the claims as amended are in allowable form. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, or which may be overcome by an Examiner's Amendment, the Examiner is requested to contact the undersigned attorney.

Dated this 20 day of March, 2006.

Respectfully submitted,



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